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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

SUBJECT: Review of St. Juliens Creek Annex Supplemental Site Investigation for Site 21 — May 20, 2008

FROM: Mindi Snoparsky, Geologist
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TO: Josh Barber, RPM
Federal Facilities Branch (3HS11)

My main concern with the report is that the reported TCE found at the top of the Yorktown confining unit is a red flag for a more detailed investigation of the Yorktown aquifer. Since the report documented organics at the top of the Yorktown confining unit, a vertical extent of contamination into the aquifer is needed. The discussion on p. 4-8 regarding saturated zone flow should discuss the possibility of the DNAPL entering the aquifer. Although it is helpful that nothing showed up at MW-01D, there is no information about flow in the deeper aquifer from the source area. Although I realize that no one wants to move the contamination deeper, there are different ways of doing this which can be discussed.

Additional Comments are noted below:

3.2.4 Stormwater sampling, p. 3-3
I agree with the video inspection that will be performed as reported in the **Addendum to the WP for Additional GW Delineation Activities at Site 21.**

4.1.3 Groundwater geochemical Parameter Results – Field results, p. 4-1
The large difference in pH in the groundwater samples is interesting. It would help if this variation could be expounded upon. For example, is it common for the area, or is it just in the site vicinity? Does it correlate with any other parameters or contamination? How are the high and low values distributed?

Soil CVOC Results, p. 4-1
Although the presence of acetone and carbon disulfide could be lab contaminants, this could also depend on their concentrations. Please add a discussion regarding their concentrations and more information on why it is thought that they are lab contaminants.

4.1.4 Deep Aquifer Analytical results – Metals, p. 4-6
The discussion regarding arsenic is interesting and I wonder if there are any other clues such as pH of the sample, water levels, etc. that could be involved in the inconsistency of the results.

Current Migration Pathways, p. 4-8
I may have missed this, but I did not note the depth of the leaking storm water system. Its depth is important regarding migration into the hydrogeologic units on site.

Figure 4-1
This figure is helpful, but a graphic representation of the horizontal and vertical extent of the plume might be a good idea for future reports. Additionally, since there is only 1 deep well, perhaps its location and data should be noted on this figure.

Conclusions and recommendations
I disagree with the conclusion that the Yorktown confining unit is laterally extensive across the site and that the deep aquifer does not seem to be impacted. There is not enough information to substantiate this. Additionally, the upcoming video investigation of the storm sewer is fine, however, additional sampling of soils in the vicinity of the storm sewer may be needed after this investigation is undertaken.

In **Potential Presence of Groundwater, p. 6-2,** the rebound conditions described here refer to Pump and Treat remedies, not just passive treatment of groundwater.

Also, it seems that an MNA remedy has already been chosen although the **Addendum** will be evaluating reductive dechlorination. The last sentence implies that a treatability study will reduce concentrations of CVOCs (p. 6-3); a treatability study is not a remedy. A treatability study for enhancing reductive dechlorination is fine, but this may not be appropriate for the deeper groundwater since its extent is unknown.

Please contact me if there are any questions.